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10/708,739

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David Elder

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EXAMINER

MURALIDAR, RICHARD V

ART UNIT

PAPER NUMBER

2838

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/708,739

Applicant(s)

ELDER ET AL.

Examiner

Richard V. Muralidar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,10-13,17,29 and 64- 65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 3-6, 10-13, 17, 29, and 64-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

This action is in response to the claims filed 12/13/2006. Claims 7-9, 14-16, and 18-22 are withdrawn. Claims 1, 3-6, 10-13, 17, 29, 64, and 65 are currently pending. The applicant is hereby notified of a change in examiner assigned to current application 10/708,739.

Telephone interviews were conducted with applicant's attorney Eric Weierstall (202-465-7180) on the 6th, 7th, and 8th of June 2007 to discuss prosecution history and possible amendments to forward prosecution. The issue of obviousness type double patenting with related cases 10/604,703 and 10/913,334 were raised- a terminal disclaimer has already been sent to clear this issue. Issues of applicant's main battery and auxiliary battery [Fig. 3B] being in parallel were raised. It was argued with the previous examiner that the batteries were never in series or parallel. The current examiner concurs the batteries are never in series, but there are possible instances where the batteries are in parallel [see 112 2nd below]. The examiner additionally noted that there is not total isolation between batteries; because of the diode there is only one-way isolation [see 112 2nd below]. Additionally, the examiner pointed out in claims 1 and 65 that the "...at least one switching device having at least two operating positions..." indicates that more than one switch can be used to accomplish the claimed functionality in claims 1 and 65. The attorney will confer with the inventor before responding. During the telephone interview, authorization was given to amend the claims as follows:

Claim 1 line 8 was amended to correct a 112 2nd paragraph error, "... with an at least one switching device..." to read "... with **the** at least one switching device..."

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Claim 1 line 12 was amended to correct a 112 2nd paragraph error "...where a first operating..." was replaced with "...wherein in a first operating...".

Claim 1 line 19 was amended to correct a 112 2nd paragraph error, "... wherein in the second operating position..." was replaced with "... wherein in a second operating position...".

The dependency of claim 64 was changed from depending upon claim 30 to depending upon claim 1; since claim 30 had previously been cancelled.

Claim 1, the preamble was amended to read "A vehicle multiple battery system operating a vehicle electrical system" in line 1.

Claim 65, the preamble was amended to read "A vehicle multiple battery system operating a vehicle electrical system" in line 1. Line 9 was amended to read "...of the at least two batteries, thereby operating the vehicle and preventing current..."

"Vehicle" was added to all subsequent occurrences of "electrical system" in order to maintain consistency.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: the date of execution states **EXECUTED this 22 day of March, 200_**. The year is not properly filled in.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant recites in claim 1 lines 19-20 that "...the main battery is electrically isolated from the at least one standby battery..." However, applicant's Fig. 3B indicates that isolation is one way only, from the auxiliary battery to the main battery. Current can flow from the main battery to the auxiliary battery (regardless of the switch position) if the charge in the main battery is higher than the charge in the auxiliary battery, by greater than the 0.7 volts required to overcome the diode threshold. Therefore it is inaccurate/misdescriptive to say simply that the batteries are isolated.

Claim 1 lines 21-22 recite "...one standby battery exclusively provides electrical power to the electrical system at startup..." The same argument above applies here. If the charge in the main battery is higher than the charge in the auxiliary battery, by greater than the 0.7 volts required to overcome the diode threshold, power will flow from the main battery to the secondary battery and through the second switch position to supply power to the load. Therefore it is inaccurate/misdescriptive to say simply the standby battery supplies power exclusively.

Claim 65 lines 14-18 contain the same problems outlined above. Current flow is not prevented if the charge in the main battery is higher than the charge in the auxiliary

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battery. In this condition, both batteries are in parallel, and both batteries will supply power to the load through the switch, regardless of switch position 1 or 2.

Based on these 112 2nd paragraph issues and the fact that the invention critically relies on the functionalities rejected, in order to forward prosecution no patentable weight will be given to lines 19-22 in claim 1 and lines 14 through 18 of claim 65.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6, 10-13, 17, 29, and 64-65 are rejected under 35 U.S.C. 102(b) as being anticipated by Shoji [U.S. 6181100].

With respect to claims 1 and 64, Shoji discloses a vehicle multiple battery system [Fig. 1] operating a vehicle electrical system [col. 1 lines 14-17] connected between a system positive and a system negative terminal, the apparatus comprising: a main battery [Fig. 1, battery 1] having a main positive output coupled to an at least one switching device [Fig.1, SW1-SW4] having at least two operating positions [SW1-SW4 have a total of 7 operating positions under the control of a single controller 9] and a main negative output; at least one standby battery [Fig. 1, auxiliary battery 2] having an at least one standby positive output coupled to the at least one switching device and an at least one standby negative output coupled to the vehicle electrical system negative

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terminal [ground, not shown]; and a main electrical circuit comprising a coupling of the system positive terminal with the at least one switching device [SW1-SW4 is shown coupled to the entire electrical system], the at least one switching device having at least two operating positions to selectively and exclusively couple either the main [SW 1 in the lower position, connected to the load] or the at least one standby battery [SW2 in the closed position] positive output to the system positive terminal to start and operate the vehicle electrical system [Fig. 1, load box 5 represents the vehicle starter]; wherein in a first operating position of an at least two operating positions electrical power is provided exclusively by the main battery [Fig. 1, with SW 1 in the lower position and SW 2 open, only battery 1 will supply power] at startup of the vehicle electrical system and the main battery is recharged by the vehicle electrical system [Fig. 1, by DC 5; or by battery 2 with SW3 and SW4 in the lower positions] and-an at least one one-way charging circuit [Fig. 1, DC 5, charging flows only one way-out of DC 5] receives electrical power from the vehicle electrical system, the at least one one-way charging circuit simultaneously recharging the at least one standby battery without permitting it [does it refer to the standby battery or to the one-way charging circuit?] to be engaged to start the vehicle electrical system, operate the vehicle electrical system, or electrically couple to the main battery [Fig. 1, SW2 closed and SW4 in the upper position]; and wherein in a second operating position of the at least two operating positions the main battery is electrically isolated from the at least one standby battery [Fig. 1, SW3 is in the lower position and SW 4 is in the upper position] and the at least one standby battery exclusively provides electrical power to the vehicle electrical system at startup [SW2 is

closed]; and a controller [Fig. 1, controller 9] coupled to the main electrical circuit and switching said at least one switching device based on input from an at least one sensor [VI measurement 3, 4].

With respect to claim 3, Shoji discloses that in a second operating position of the at least two operating positions the system positive terminal is coupled directly to the standby positive output [Fig. 1, when SW2 is closed].

With respect to claim 4, Shoji discloses that the main battery is electrically isolated from the at least one standby battery in the second operating position [Fig. 1, with SW4 in the lower position] of the at least two operating positions of the at least one switching device and the at least one standby battery provides electrical power at startup and during operation of the electrical system [Fig. 1, with SW2 closed].

With respect to claim 5, Shoji discloses that only the coupling of the positive output of the main battery or the positive output of the at least one standby battery are switched by the switching device [Fig. 1, the positives of SW1 or SW4 are switched].

With respect to claim 6, Shoji discloses that the second operating position of the at least two operating positions electrically isolates the main battery from the electrical system and introduces only the at least one standby battery [to what? Fig. 1, SW1 off and SW2 closed].

With respect to claim 10, Shoji discloses that the battery system further comprises a battery housing with a main battery compartment containing the main battery and an at least one standby battery compartment containing the at least one

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standby battery [the battery housing is the area under the hood of the vehicle. The battery compartments are the placements of the batteries under the hood].

With respect to claims 11 and 12, Shoji discloses that the main battery compartment is located atop/aside the at least one standby battery compartment [placement of the batteries can be anywhere, without affecting the functionality claimed thus far].

With respect to claim 13, Shoji discloses that the one-way charging circuit comprises an at least one-way charging diode [Fig. 1, AC GEN/ DC 5 implicitly contain diodes to rectify AC into DC].

With respect to claim 17, Shoji discloses that the at least one standby battery comprises a single standby battery [Fig. 1, auxiliary battery 2].

With respect to claim 29, Shoji discloses that the multiple batteries are part of an at least one of a six-volt, a twelve-volt [this is the current standard vehicle battery system], a fourteen-volt, and a twenty-four volt battery electrical system.

With respect to claim 64, Shoji discloses that in the second of the at least two operating positions, the main battery and the one-way charging circuit are electrically isolated from the standby battery and the standby battery is engaged to operate the electrical system [Fig. 1, through SW 2 being closed].

Response to Arguments

Applicant's previous arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard V. Muralidar whose telephone number is 571-272-8933. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard V. Muralidar/
Examiner, AU 2838
8 June 2007


KARL EASTHOM
SUPERVISORY PATENT EXAMINER